

Appl. No. 10/621,686  
Amdt. Dated October 28, 2004  
Reply to Office action of August 6, 2004

#### REMARKS/ARGUMENTS

This case has been carefully reviewed in light of Office Action dated August 6, 2004. Claims 1-2,7-21,23-42 and 46-48 were rejected under 35 USC 102(b) as being unpatentable over Amorai-Moriya et al (US 6,141,293) or Dalby(US 6,184,831) and under 35 USC 102(e) as being anticipated by Vayanos (US 6,718,174). Claims 3-6,22,43-45 were objected to as being dependent upon a rejected base claim. Claims 49-60 are allowed. Claims 3, 22, and 43 have been canceled. Claims 1-2, 4-21, 23-42, and 44-60 remain pending in this application.

In response to the Office Action indication that claims 3-6, 22, and 43-45 would be allowable if rewritten in independent form, claims 1, 20 and 41 have been amended to include the limitations of claim 3, claim 22 and claim 43 respectively and are now believed to be in condition for allowance. Claims 2, 5-12 and 15-19 depend directly or indirectly from claim 1; claims 21, 23-32, 34-37 and 39-40 depend directly or indirectly from claim 20; and claims 42-48 depend directly or indirectly from claim 41 and are therefore also allowable due to dependency. Withdrawal of the rejections is respectfully requested, and allowance of the claims is respectfully solicited.

Claims 13, 18, 33, and 38 were rewritten in independent form. Applicant respectfully traverses the 102(b) and 102(e) rejections of these claims as well as claims 14 and 34 which depend respectively from claims 13 and 33.

Neither of Amorai Moriya et al. nor Dalby et al. teaches, suggests or discloses Applicant's claimed invention as described in independent claims 13 and 33. Applicants respectfully submit that the applied references do not teach, suggest, or disclose the amended claims 13 and 33 recitations of (with emphasis added):

13. A method for determining a position of a moving platform, the method comprising:  
transmitting a carrier signal from one of the moving platform and a stationary platform;  
receiving a received signal at the other of the moving and stationary platforms;  
deriving a frequency shift between the carrier signal and the received signal; and  
calculating the apparent closing velocity using the frequency shift and a frequency of the carrier signal; **wherein the stationary platform comprises a transmitter coupled to a railway track.**

33. A system for determining a position of a moving platform, the system comprising:  
a transmitter configured for transmitting a carrier signal from one of the moving platform and a stationary platform;  
a receiver system configured for receiving a received signal from the other of the moving and stationary platforms, the receiver system further comprising:  
a processor configured for:  
(i) deriving a frequency shift between the carrier signal and the received signal;  
(ii) calculating the apparent closing velocity angle using the frequency shift and a frequency of the carrier signal, **wherein the stationary platform comprises a transmitter coupled to a railway track.**

Amorai Moriya does not disclose a stationary platform comprising a transmitter coupled to the railway track. Amorai Moriya instead describes a method of tracking an object within a surveillance area having a predetermined linear extent. The transducers are fixed to the object. The object as described by the reference may be a person and the object is moving within a surveillance area. Nowhere does Amorai Moriya teach suggest or disclose a method or system for determining a position of a moving platform with respect to a stationary

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platform, where the stationary platform comprises a transmitter coupled to a railway track.

Dalby does not disclose a stationary platform comprising a transmitter coupled to the railway track as. Dalby describes a method and system for calculating the range between a source which emits electromagnetic energy having an unknown frequency and a first receiver of electromagnetic energy at at least three points along a portion of a source trajectory. Nowhere does Dalby teach suggest or disclose a method or system for determining a position of a moving platform with respect to a stationary platform, where the stationary platform comprises a transmitter coupled to a railway track.

Therefore independent claim 13, claim 14 which depends therefrom, independent claim 33, and claim 34 which depends therefrom are patentable over of the Amorai Moriya and Dalby references. Withdrawal of the rejections is respectfully requested, and allowance of the claims is respectfully solicited.

Amorai Moriya et al. and Dalby et al. does not teach, suggest or disclose Applicant's claimed invention as described in independent claims 18 and 38. Applicants respectfully submit that the applied references do not teach, suggest, or disclose the amended claims 18 and 38 recitations of (with emphasis added):

18. A method for determining a position of a moving platform, the method comprising:  
transmitting a carrier signal from one of the moving platform and a stationary platform;  
receiving a received signal at the other of the moving and stationary platforms;  
deriving a frequency shift between the carrier signal and the received signal; and  
calculating the apparent closing velocity using the frequency shift and a frequency of the carrier signal;  
wherein the moving platform is a locomotive.

38. A system for determining a position of a moving platform, the system comprising:  
a transmitter configured for transmitting a carrier signal from one of the moving platform and a stationary platform;  
a receiver system configured for receiving a received signal from the other of the moving and stationary platforms, the receiver system further comprising:  
a processor configured for:  
(i) deriving a frequency shift between the carrier signal and the received signal;  
(ii) calculating the apparent closing velocity angle using the frequency shift and a frequency of the carrier signal,  
wherein the moving platform comprises a locomotive.

Amorai Moriya does not disclose a moving platform which comprises a locomotive. As discussed above, Amorai Moriya instead describes a method of tracking an object within a surveillance area having a predetermined linear extent. The transducers are fixed to the object. The object as described by the reference may be a person and the object is moving within a surveillance area. Nowhere does Amorai Moriya teach suggest or disclose a method or system for determining a position of a moving platform with respect to a stationary platform, wherein the moving platform comprises a locomotive.

Dalby does not disclose a moving platform which comprises a locomotive as described in claims 18 and 38. As stated above, Dalby describes a method and system for calculating the range between a source, which emits electromagnetic energy having an unknown frequency and a first receiver of electromagnetic energy at least

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three points along a portion of a source trajectory. Nowhere does Dalby teach suggest or disclose a method or system for determining a position of a moving platform with respect to a stationary platform, wherein the moving platform comprises a locomotive.

Therefore, amended independent claims 18 and claim 38 are patentable over of the Amorai Moriya and Dalby references. Withdrawal of the rejections is respectfully requested, and allowance of the claims is respectfully solicited.

Claims 13, 14, 18, 33, 34 and 38 were also rejected under 35 USC 102(e) as being anticipated by Vayanos et al. Applicants respectfully traverse the rejection of claims 13, 14, 18, 33, 34 and 38 under 35 USC 102(e). Vayanos et al. describe techniques to estimate the velocity of a terminal in a wireless communication system. Movement by the terminal results in a Doppler shift in the frequency of each transmitted signal received at the terminal. This Doppler frequency shift is related to the terminal's velocity, which may be accurately estimated by processing the received signal to provide a set of frequency errors in the transmitted signals (as received at the terminal) for a number of satellites (Column 2, lines 1-7). Nowhere does Vayanos et al. teach suggest or disclose a system for determining a position of a moving platform comprising a locomotive (as recited in claims 13, 14, 33, and 34). Additionally Vayanos et al. does not teach suggest or disclose using a stationary platform comprising a transmitter coupled to a railway track (as recited in claims 18 and 38).

Therefore amended independent claim 13, claim 14 which depends therefrom, independent claim 18, independent claim 33, claim 34 which depends therefrom, and independent claim 38 are patentable over of the Vayanos reference. Withdrawal of the rejections is respectfully requested, and allowance of the claims is respectfully solicited.

#### Summary

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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